MYCOTAXON

ISSN (print) 0093-4666 (online) 2154-8889 Mycotaxon, Ltd. ©2017

April–June 2017—Volume 132, pp. 357–360

https://doi.org/10.5248/132.357

Bharatheeya coronata sp. nov., a conidial fungus from Brazil

Lucas Barbosa Conceição [1], Marcos Fabio Oliveira Marques [2],
Josiane Santana Monteiro [1], Luís Fernando Pascholati Gusmão [1*A],
Flavia Rodrigues Barbosa [3] & Rafael F. Castañeda-Ruiz [4*B]

[1] *Universidade Estadual de Feira de Santana,*
Avenida Transnordestina, s/n, Novo Horizonte, 44036-900, Feira de Santana, Brazil
[2] *Universidade do Estado da Bahia, Departamento de Educação,*
Campus VII, BR407 Km 127, 48970-000, Senhor do Bonfim, Bahia, Brazil
[3] *Universidade Federal do Mato Grosso, Instituto de Ciências Naturais, Humanas e Sociais,*
Avenida Alexandre Ferronato, 1200, 78557-267, Sinop, Mato Grosso, Brazil
[4] *Instituto de Investigaciones Fundamentales en Agricultura (INIFAT) Alejandro de Humboldt,*
Calle 1 Esq. 2, C.P. 17200, Santiago de Las Vegas, C. Habana, Cuba

* Correspondence to: [A] *lgusmao@uefs.br;* [B] *rfcastanedaruiz@gmail.com*

Abstract—*Bharatheeya coronata*, collected from decaying twigs in Bahia state, Brazil, is described and illustrated. The new species differs from both other *Bharatheeya* species by its smooth conidiophores, terminal conidiogenous cells that are truncate at the apex, and coronate, 1-distoseptate, pale brown conidia.

Key words—asexual ascomycete, hyphomycetes, taxonomy, tropical fungi

Introduction

The diversity of saprobic conidial fungi in tropical regions is still largely unknown, although the number of fungal inventories has increased in recent years (Maia et al. 2015). Several studies in different habitats in Brazil, especially in the semiarid region, have revealed novel taxa and new records of conidial fungi (Conceição et al. 2016, Fiuza et al. 2016, Monteiro et al. 2016). During a mycological survey of conidial fungi occurring on decaying plant material in the Brazilian semiarid region, an interesting specimen was found, clearly congeneric with *Bharatheeya* D'Souza & Bhat but different from the two previously described species. It is therefore described here as a new species.

Materials & methods

Samples of decaying plant material from Serra da Fumaça, Bahia, Brazil, were placed in paper bags. The materials were washed in tap water and placed on moist filter paper in glass Petri dishes (100 mm diam.). The dishes were then placed in plastic containers (150 L capacity), containing 200 mL sterile water and 2 mL glycerol, and incubated at room temperature (Castañeda-Ruiz et al. 2016). The plant material was regularly examined over a month of incubation for the presence of microfungi. Mounts were prepared in PVL (polyvinyl alcohol and lactic acid) and measurements were taken at ×1000. Microphotographs were made using a DP25 Olympus digital camera attached to a BX51 Olympus microscope equipped with bright field and Nomarski interference optics. The specimen was deposited in the Herbarium of Universidade Estadual de Feira de Santana, Bahia, Brazil (HUEFS).

Taxonomy

Bharatheeya coronata L.B. Conc., M.F.O. Marques, J.S. Monteiro, Gusmão & R.F. Castañeda, **sp. nov.** FIG. 1

MYCOBANK MB819175

Differs from both other *Bharatheeya* spp. by its smooth conidiophores, its terminal conidiogenous cells that are truncate at the apex, and its coronate, 1-distoseptate, pale brown conidia.

TYPE: **Brazil**. Bahia State: Pindobaçu, Serra da Fumaça, 10°39′S 40°22′W, on decaying twig of unidentified plant, 8.Aug.2015, coll. L.B. Conceição (**Holotype**: HUEFS 216708).

ETYMOLOGY: Latin, *coronata*, referring to the crown-like projections on the conidial apex.

COLONIES on the natural substrate effuse, hairy, brown to pale brown. Mycelium superficial and immersed, composed of branched, cylindrical, septate, smooth, 2–3 µm diam., pale brown hyphae. CONIDIOPHORES macronematous, mononematous, single, erect, straight or slightly flexuous, unbranched, cylindrical, 2–5-septate, thick-walled, smooth, brown, paler toward the apex, 62.5–147.5 µm long, basal cell slightly inflated or sometimes radially lobed, 4–15 µm diam. CONIDIOGENOUS CELLS polytretic, integrated, terminal or rarely subterminal, cylindrical, truncate at the apex, smooth, pale brown, (9–)18–28 × 3–4 µm; 30–60 µm long, with or without percurrent extensions. Conidial secession schizolytic. CONIDIA solitary, acropleurogenous, 1-distoseptate, cuneiform, turbinate to broadly pyriform, dry, smooth, pale brown, 10–17 × 7–11 µm, with a small dark scar at the base, 1–2 µm diam., coronate at the apex with up to 10 projections.

ADDITIONAL SPECIMEN EXAMINED: **BRAZIL. BAHIA STATE:** Santa Teresinha, Serra da Jibóia, 10°74′S 40°36′W, on decaying wood of unidentified plant, 25.III.2009, F.R. Barbosa (HUEFS 216659).

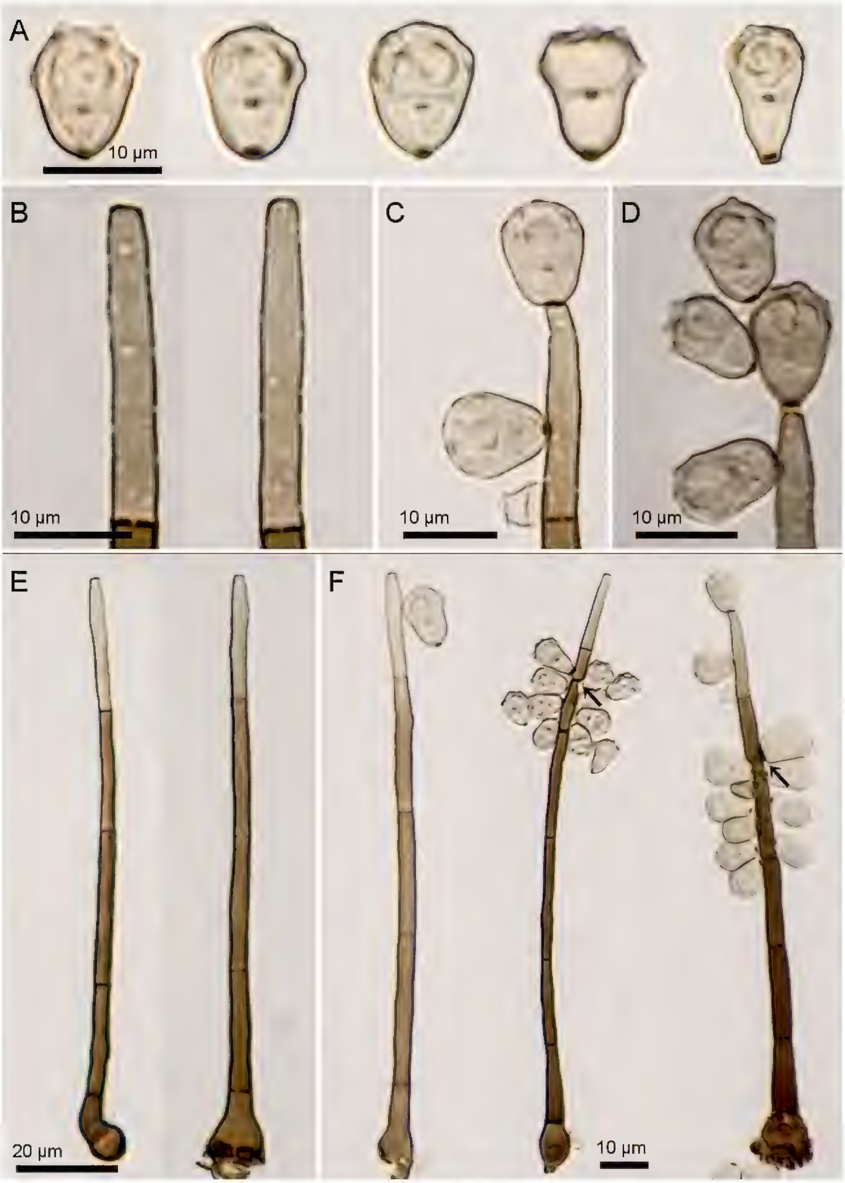

Fig 1. *Bharatheeya coronata*: (ex HUEFS 216708). A. Conidia. B. Conidiogenous cells. C, D. Conidiogenous cells and conidia. E. Conidiophores and conidiogenous cells. F. Conidiophores, conidiogenous cells, and conidia;. Arrows indicate the conidiogenous cell extensions.

NOTE: *Bharatheeya* was established by D'Souza & Bhat (2002) and typified by *Spadicoides goanensis* Bhat & W.B. Kendr. [≡ *B. goanensis* (Bhat & W.B. Kendr.) D'Souza & Bhat]. The genus is distinguished by conidiophores that are mononematous, smooth or verrucose, intercalary, and integrated, polytretic conidiogenous cells, and solitary, distoseptate, smooth to rough-walled conidia. *Bharatheeya coronata* shares polytretic conidial ontogeny and distoseptate conidia with *B. goanensis* and *B. mucoidea* D'Souza & Bhat. However, *B. goanensis* is distinguished by its verrucose conidiophores and 3-distoseptate conidia that are cylindrical-ovoid to obclavate (described inaccurately as "clavate" by D'Souza & Bhat 2002), while *B. mucoidea* is characterized by 2–4-distoseptate conidia (with globose, mucilaginous apical tunica) that are obpyriform to obclavate (inaccurately as "pyriform to clavate" in D'Souza & Bhat 2002).

Acknowledgments

The authors express their sincere gratitude to Dr. Xiu-Guo Zhang and Dr. De-Wei Li for their critical reviews of the manuscript. LBC is grateful to the Universidade do Estado da Bahia (UNEB), the Conselho Nacional de Desenvolvimento Científico e Tecnológico, the Fundação de Amparo à Pesquisa do Estado da Bahia (FAPESB) and Programa de Pós-Graduação em Botânica (PPGBot/ UEFS). JSM is grateful to the PROTAX N° 150823\2015-0. RFCR is indebted to the OSDE, Grupo Agrícola from Cuban Ministry of Agriculture and 'Programa de Salud Animal y Vegetal', project P131LH003033 for facilities. Dr. Lorelei Norvell's editorial review and Dr. Shaun Pennycook's nomenclature review are greatly appreciated.

Literature cited

Castañeda-Ruiz RF, Heredia G, Gusmão LFP, Li DW. 2016. Fungal diversity of Central and South America. 197–217, in: DW Li (ed.). Biology of Microfungi. Springer International Publishing. https://doi.org/10.1007/978-3-319-29137-6_9

Conceição LB, Marques MFO, Gusmão LFP, Monteiro JS, Castañeda-Ruiz RF. 2016. *Linkosia aquatica* sp. nov. from submerged plant debris from Brazil. Mycotaxon 131(2): 297–304. https://doi.org/10.5248/131.297

D'Souza M, Bhat DJ. 2002. *Bharatheeya*, a new hyphomycete genus from India. Mycotaxon 83: 397–403.

Fiuza PO, Monteiro JS, Gusmão LFP, Castañeda-Ruiz RF. 2016. *Mirandina uncinata* sp. nov. from submerged leaves from Brazil. Mycotaxon 131(1): 141–144. https://doi.org/10.5248/131.141.

Maia LC, Junior AAC, Cavalcanti LH et al. 2015. Diversity of Brazilian Fungi. Rodriguésia 66(4): 1033–1045. https://doi.org/10.1590/2175-7860201566407

Monteiro JS, Conceição LB, Marques MFO, Gusmão LFP, Castañeda-Ruiz RF. 2016. *Dictyoaquaphila appendiculata* gen. & sp. nov. from submerged wood from Brazil. Mycotaxon 131(1): 177–183. https://doi.org/10.5248/131.177